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The entrepreneurial intention of university students: An environmental perspective

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ABSTRACT

Purpose: This paper seeks evidence of which variables, directly or indirectly, have influence on the entrepreneurial intention of university students in order to adequately plan activities to reinforce such intention for Spanish universities. Specifically, we introduce the variable of environmental awareness to test whether it induces a greater entrepreneurial intention.

Study design/methodology/approach: The target population of the study has been students at the University of Oviedo who were enrolled in an undergraduate degree or a master's degree during the 2018–2019 academic year. A questionnaire has been sent obtaining the following data: 1,337 valid questionnaires, 2.58% sampling error rate for 95% confidence level, $p = q = 0.5$. To contrast the proposed hypotheses we have used the methodology of structural equations (SEM model).

Findings: Starting from the Ajzen's Theory (TPB) we demonstrate that both the attitude towards the entrepreneurial behaviour (PA) and the perceived behavioural control (PBC) exert a significant influence on the entrepreneurial intention (EI) of university students. This is not the case of the third construct of the TPB, namely the social norms (SNs). We have verified that PA partially mediates the relationship between the PBC and the EI and PA totally mediates the relationship between the PBC and the EI. We have corroborated that a high degree of environmental awareness of university student's exerts influence in their PA. Finally, it has been corroborated that the SNs which are most proactive towards entrepreneurship mediate the relationship between the student's EnvA and the PA.

Originality/value: This paper proposes a variation of the model of planned behaviour (Ajzen's TPB) incorporating with the addition of mediating relationships amongst the variables and the introduction of the environmental awareness variable applied to the entrepreneurial intention of university student. The usefulness of this paper is to provide scientific evidence to support the inclusion of ecological transition in Estrategia España Nación Emprendedora.

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1. Introduction

The entrepreneurial activity is considered to be, with increasing determination, an activity that should be encouraged for its crucial contribution to the economic and social development of a given area, a way for creating employment and an essential means to achieve high levels of competitiveness and innovation in the market.

The global data resulting from the latest study published by the Global Entrepreneurship Monitor (GEM) 2020–2021 show that, amongst the 43 economies that participated in the survey, the Middle

East and Africa obtained the highest levels of Total early-stage Entrepreneurial Activity (TEA). On the contrary, the lowest levels of TEA were recorded in Europe and North America. The position of Spain is even more negative as it has a 5.5% TEA, far below the EU average (8.1%) (Bosma et al., 2021)

In light of this scenario, academic research on entrepreneurship acquires value in order to have scientific data that support the way to achieve a greater boost in entrepreneurship in lagging countries such as Spain. In the current state of research, there is a consensus in the literature regarding the validity of intentional models for predicting the entrepreneurial drive, since intentions are understood as antecedents of actual behaviour (Hernández-Sánchez, Sánchez-García, & Mayens, 2019; Krueger & Carsrud, 1993). On this issue, the latest Guesst global report (Sieger, Fueglistaller, Zellweger, & Braun, 2018) analyses the entrepreneurial intention of university students

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desegregated by countries. Spain, once again, is lagging behind in the ranking of countries regarding the entrepreneurial intention of their university students. This can be observed in the vast majority of developed economies

With the aim of improving the entrepreneurial intention in countries with entrepreneurial rates which are lower than the average, such as Spain, there is a growing interest in developing education programmes to encourage and enhance entrepreneurship. Practical experiences such as those reported by Arias, Barba-Sánchez, Carrión, & Casado, 2018 are usual. In this paper we analyse whether the promotion of environmental awareness amongst university students in their education programmes induces a greater entrepreneurial intention. The environmental factors can be a vital catalyst for the success of the sustainable entrepreneurial initiatives (Chege & Wang, 2020) because environmental awareness predisposes people to seek solutions to meet the demands of both individuals and companies, in order to prevent environmental degradation and to improve the ecological environment. Therefore, environmental awareness may become a precedent of the entrepreneurial intention of sustainable businesses (Dean & McMullen, 2007; Gibbs, 2006; Parrish, 2010)

On the basis of these arguments, we assume that university curricula focused on entrepreneurship should be adjusted with the introduction of a cross-disciplinary training, such as the importance of environmental management and sustainability in business. Therefore, our aim is to provide evidence about the influence of the environmental awareness variable on the entrepreneurial intentions of university students, to properly approach entrepreneurial training in higher education institutions. The usefulness of this paper is to provide scientific evidence to support the inclusion of ecological transition in *Estrategia España Nación Emprendedora* (Gobierno de España, 2021). In the aforementioned strategy, emphasis is placed on promoting the innovative entrepreneurship of the triple bottom line (economic, social and environmental). To this end, the objective is to promote entrepreneurship forums related to the triple bottom line to spread successful initiatives, best practices and methodologies related to the environment and society. In this paper, we seek to demonstrate that such initiatives can enhance the entrepreneurial spirit of our university students

2. Entrepreneurial intention: direct and mediator effects

Originally, publications about entrepreneurship were focused on the analysis of the personality of the entrepreneur. During the 1980s and 1990s, several researchers argued that, compared to the personality variable, the individual intentions towards entrepreneurship were more effective and had a greater explanatory capacity to predict the entrepreneurial behaviour. Numerous researchers have discussed the variables that influence the entrepreneurial intention, proposing different theoretical models for this purpose (Peng, Lu, & Kang, 2012). Amongst intentional models, one of the most influential ones is the Theory of Planned Behaviour (Ajzen's TPB) (Ajzen, 1991). According to Ajzen's TPB, the attitude towards behaviour construct (hereafter referred to as "PA"), the perceived behavioural control (hereafter referred to as "PBC") and the social norms (hereafter referred to as "SNs") have influence on the intention to perform a behaviour, which in our model is the entrepreneurial intention (hereafter referred to as "EI").

Different studies have confirmed the predictive power of the scales in Ajzen's model regarding the intention to establish a new business (Almobaireek & Manolova, 2012; Douglas & Fitzsimmons, 2013; Gelderen et al., 2008; Liñán & Chen, 2009a; Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2012). Furthermore, we can highlight a number of research studies that have confirmed the influence of these constructs on the entrepreneurial intentions of students (Autio, Keeley, Klofsten, Parker, & Hay, 2001; Barba-Sánchez & Atienza-Sahuquillo, 2018; Izquierdo &

Buelens, 2011; Sánchez-García, 2013; Sieger, Fueglistaller, & Zellweger, 2014; Taatila & Down, 2012). Sánchez-García (2013) contributes to expand the TPB, to consider other influential variables (competencies) in entrepreneurial intention. Barba-Sánchez & Atienza-Sahuquillo, 2018 indicate that the need for independence is the key factor in the entrepreneurial intent. Our first three hypotheses emerge from this review:

- H1a: The PA exerts influence on university students' EI.
- H1b: The PBC exerts influence on university students' EI.
- H1c: The SNs exert influence on university students' EI.

Since the beginning of the 21st century, intentional models have been criticised for their linear and static approach. On the one hand, they have not taken into account mediating effects amongst the proposed scales that may have indirect effects on the endogenous variable (Izaias & Pablo, 2020; Syed, Butler, Smith, & Cao, 2020). Similarly, the entrepreneurial intention variable is dynamic, i.e. there may be new variables that affect the companies and exert influence on the entrepreneurial intention. In order to provide a partial solution to these gaps, we have focused on the attitude towards entrepreneurial behaviour as a determinant construct in the entrepreneurial intentions of the students

It has been shown that when people consider themselves to have enough capacity and control to manage a company, their attitude towards this aim improves, causing a positive effect on the entrepreneurial intention (Zhao, Lei, He, Gu, & Li, 2015). Some other authors have shown that an increased perception of the ability to manage a company exerts an indirect influence through the proactive attitude towards the entrepreneurial intention (Prabhu, McGuire, Drost, & Kwong, 2012). Wang et al. advise the use of perceptions about attitude and self-control regarding the mediation on entrepreneurial intention (Wang, Chang, Yao, & Liang, 2016). There is also student research on the indirect relationships of the perception of capability and control in the students' intention to become entrepreneurs (Zhao et al., 2015). The following hypothesis emerges from these arguments:

- H1d: The PA mediates the relationship between PBC and the university students' EI

The SNs construct is perhaps the most reviewed one in literature. This is due to the fact that different empirical studies have proven that the aforementioned scale is the weakest predictor in terms of the entrepreneurial intention of the individual (Almobaireek & Manolova, 2012; Krueger, Reilly, & Carsrud, 2000; Liñán & Chen, 2009a). In the research carried out by Krueger and Brazeal, it is argued that the SNs are not an independent construct with a direct impact on the entrepreneurial intention (Krueger & Brazeal, 1994). In this paper, we have considered that there is a temporality between the SNs and the PA, i.e. the effect the social norms have on the entrepreneurial intention may be more relevant when it is directly exerted through attitude, especially amongst the young people. This would reaffirm that, if the environment shaped the individual attitude, a direct effect on the entrepreneurial intention would be produced. Thus, hypothesis 1e would be presented in the following manner:

- H1e: The PA mediates the relationship between the SNs and the university students' EI

2.1. Entrepreneurial intention and environmental awareness

The value-belief-norm theory has gained acceptance in environmental behaviour literature (Steg, Dreijerink, & Abrahamse, 2005; Stern, 2000). People who have a great concern for environment also

have the urge to express these values, act in accordance with them and engage in actions seeking to provide solutions to ecological issues (Bruyere & Rappe, 2007). These conditions shape the environmental awareness, which predisposes people to a proactive attitude towards sustainable entrepreneurship (Thelken & de Jong, 2020)

This relationship has been analysed from an entrepreneurial perspective and the conclusion has been the same, i.e. people who have a great concern for environment also have the urge to change the future, making the current world a better place for everyone (Murphy & Coombes, 2009). They feel like agents of change and show a proactive attitude in order to develop innovative activities with the main aim of achieving a social or environmental benefit for a community. They also perceive a neglected problem as a business opportunity with the aim of solving it (Nicolás Martínez, Rubio Bañón, & Fernández Laviada, 2019). As agents of change, individuals are motivated by a high level of environmental awareness to act in a financial and social way and they focus on the final economic and environmental results (Phillips, Lee, Ghobadian, O'Regan, & James, 2015)

These arguments are even more important to today's youth than to previous generations because they feel themselves to be more enterprising and aware with respect to environment (Hewlett, Sherbin, & Sumberg, 2009) and want more than just a monetary compensation at work (Ng, Schweitzer, & Lyons, 2010). Some authors have found a correlation between the awareness regarding environmental protection and the intention to establish a sustainability-orientated business (Kuckertz & Wagner, 2010)

Similarly, other authors have found that the attitudes and values linked to sustainability (i.e. environmental awareness) motivate individual entrepreneurs to engage in environmentally friendly practices and positively affect their intention to engage in sustainable green entrepreneurship (Koe & Majid, 2014a, 2014b). In particular, students who intend to establish sustainable businesses have positive attitude towards sustainable entrepreneurship (Agu, 2021). The increasing awareness of environmental risk exposure also affect intentions to create companies (Middermann, Kratzer, & Perner, 2020; Peng et al., 2021).

Nevertheless, the relationship between environmental awareness and the attitude towards entrepreneurship has not enough empirical support (Thelken & de Jong, 2020), especially amongst young university students. Therefore, in order to promote the theoretical arguments amongst this group, we propose the following hypothesis:

H2a: The EnvA of university students exert influence on their PA

Environmental issues are not easy to deal with because they involve several areas of knowledge. In accordance with this argument, people who are environmentally aware and whose actions aim at improving the environment are aware of the need to achieve high levels of self-improvement and training (Sharma, 2000). As analysed in literature, many individuals show a great concern for environment, but they admit that this awareness does not always turn into a change in behaviour if they do not have an appropriate training for promoting actions (Rapert, Newman, Park, & Lee, 2011). If people feel they can influence the environment with their actions, due to their knowledge of the actions that can resolve the growing environmental problems and the depletion of natural resources, the impact of the observed behavioural change will be greater and, therefore, these people will strengthen their attitude towards action (Cho, Thyroff, Rapert, Park, & Lee, 2013)

Participation in a sustainable entrepreneurship training programme is seen as an initial engagement in the sustainable entrepreneurship practice (Germak & Robinson, 2013). Awareness (ecocentric value) and, subsequently, training (knowledge availability and performance control) are the basic requirements to succeed in the development of a sustainable entrepreneurial initiative (Banerjee, 2001; Groenewegen, & Vergragt, 1991; Handfield, Melnyk,

Calantone, & Curkovic, 2001). Potential entrepreneurs with a great awareness of the creation of ecological value know that they must be based on their high-level training to apply reasonable and scientific methods to transform the intention in a sustainable entrepreneurial behaviour (Kuckertz & Wagner, 2010)

It has been proved, within the university field, that the level of understanding and training is a key factor for students in developing their environmental awareness (Miller, Wesley, & Willians, 2012) and, therefore, in assisting the creation of sustainable companies (Long, Blok, & Coninx, 2019). Thus, we propose the following hypothesis:

H2b: The PBC mediates between the university students' EnvA and the PA

In response to the growing social and environmental problems, environmentally conscious people look for cross-sectoral partnerships in the form of social alliances and many of them cooperate with organizations and Non-Governmental Organizations (NGOs) (Elkington & Fennell, 2000; Wymer & Samu, 2003). The cooperation amongst private initiatives, public administrations and organizations and NGOs have a leading role in the achievement of sustainable communities (Gogins & Rochlin, 2002). For example, the moral need to address social inequalities mainly motivate individuals to undertake sustainable entrepreneurship (Argade, Salignac, & Barkemayer, 2021)

When someone begins to explore this environment, they find themselves in a collaborative framework amongst broad-minded people, along with social enterprises that seek solutions and offer social capital, institutional linkages and knowledge networks to their associates (Sakarya, Bodur, Yildirim-Öktem, & Selekler-Göksen, 2012). The social environment of an environmentally conscious individual is more proactive about performing initiatives to seek economic and environmental solutions and opportunities that can strengthen their attitude. The next hypothesis is formulated as follows:

H2c: The SNs mediate the relationship between the students' EnvA and their PA

The environmental awareness exerts influence on the search for opportunities in environmentally sustainable businesses (Choi & Gray, 2008; Schaltegger, 2002). The idea of "green orientated" businesses arises from people with a proactive attitude towards environmental entrepreneurship who interrelates with pressure groups concerned about ecology and sustainability (Silajdzic, Kurtagić, & Vucijak, 2015). Therefore, awareness-raising regarding the creation of social and environmental value, along with the environment and a positive view of entrepreneurship as a career option, may be positively linked to sustainability-orientated entrepreneurial intentions (Bruyere & Rappe, 2007; Wagner, 2012). On the basis of these arguments, we suggest the following hypothesis:

H2d: The SNs and the PA mediate the relationship between the EnvA and the EI.

In summary, Fig. 1 represents the set of hypothesised relationships in the research model proposed

3. Methodology

The methodology employed in this study has the following structure: a) questionnaire design; b) process followed until the reception of the questionnaires; c) main characteristics of the sample; and d) measures employed in the study and its reliability and validity.

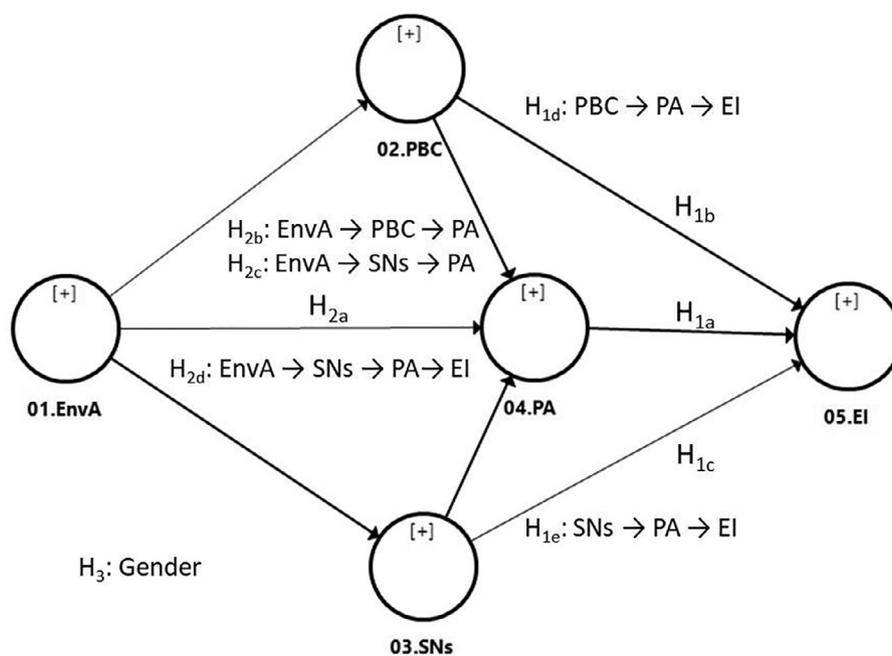


Fig. 1. Conceptual model proposed.

3.1. Questionnaire design

The questionnaire design requires the inclusion of a number of guarantees that validate the instrument used and the collected items. These include an exhausted revision of the literature and the use of the experience acquired with regard to environmental management research. Likewise, efforts have been made to be accurate when explaining the variables in order to minimize ambiguity (Davis, Bagozzi, & Warshaw, 1989). The questionnaire has been subjected to a pretest phase by conducting personal interviews with three people: a student at the University of Oviedo Polytechnic School of Engineering; a professor at the University of Oviedo Business Administration Department; and an entrepreneur member of *Asociación de Jóvenes Empresarios de Asturias (AJE Asturias)*, the association of young entrepreneurs of Asturias, Spain:

The aspects analysed in the questionnaire were the following:

- a) General information about the students, such as their age, gender, the degree that they are enrolled in (the degrees are divided into five areas of knowledge: Humanities, Social and Legal Sciences, Engineering, Sciences and Health Sciences), history of entrepreneurship in the family and educational level of their parents.
- b) The level of environmental awareness measured through several scales for valuating variables, using Likert scales (1–5).
- c) The level of entrepreneurial intention of the students measured using Likert scales (1–5).

3.2. Process followed until the reception of the questionnaires

The target population of the study has been students at the University of Oviedo who were enrolled in an undergraduate degree or a master's degree during the 2018–2019 academic year. According to the university's website, (www.uniovi.es), the total number of students enrolled that academic year was 14,624. Doctoral students, a total of 1606, have not been included amongst the target population of study because their programmes are very different from the undergraduate degree and master's degree programmes and there is

a high percentage of international students of different ages, many of whom are writing their doctoral thesis abroad. The students enrolled in the special programmes for people over 50 offered by University of Oviedo have been neither included (a total of 642 people)

Several deliveries were made over the academic year due to the fact that several students only took modules in one semester. Field work began in October 2018 and lasted until April 2019. During that period of time, we obtained 1337 valid questionnaires.

3.3. Main characteristics of the sample

Taking the total number of valid questionnaires, 1337, there is a 2.58% sampling error rate for 95% confidence level, $p = q = 0.5$. This error rate is low enough to be taken into consideration for a statistical study (Lind, Marchal, & Wathen, 2012).

Table 1 shows the technical data of the study, universe or population, geographical and temporal area, sampling unit, sampling size, sampling error and confidence level and field work data.

3.4. Measuring instruments and description of the variables

Every construct of our research model has been measured using Likert 1–5 scales. In order to assess the entrepreneurial intention (EI), the attitude towards entrepreneurship (PA) and the perceived behavioural control (PBC), we have used the entrepreneurial intention questionnaire (EIQ) developed by Liñán & Chen, 2009a. In particular, we have measured the EI using the 6 original items; we have measured the PA using the 5 original items and, in the case of the PBC, we have used 5 out of the 6 original items, since the last one is just a control item (Liñán & Chen, 2009a: 602).

With regard to subjective norms (SNs), Liñán & Chen, 2009a acknowledge the difficulty of measuring this construct and some even omit this variable from the TPB model (Chen, Greene, & Crick, 1998; Krueger & Carsrud, 1993). The essence of the concept lies in collecting the opinion of the reference environment about a particular behaviour which, in this case, has to do with being an entrepreneur. Therefore, we have opted for Veciana's scale (Veciana, Aponte,

Table 1
Technical data of the empirical study.

Empirical Data	
Characteristics	Survey
v Target universe or population	v Students at the University of Oviedo
v Geographical and temporal area	v Asturias/academic year 2018–2019
v Sampling unit	v Students
v Sampling size	v 1337
v Sampling error/confidence level	v 2.58%/95%
v Field work data	v October 2018 until April 2019
v Respondents	v Undergraduate degree and master's degree students

Source: Prepared by the authors.

Table 2
Reliability estimators and convergent validity of the model's constructs (Reflective constructs, model A).

Construct	Alpha de Cronbach	Rho_A de Dijkstra-Henseler	Compound Reliability (CR)	Average Variance Extracted (AVE)
EnvA	.848	.946	.873	.537
PBC	.848	.854	.891	.622
SNs	.883	.891	.906	.518
PA	.894	.900	.923	.707
EI	.906	.917	.929	.686

Table 3
Discriminant validity of the model's constructs (Reflective constructs, model A) based on Fornell-Larcker.

Construct	EnvA	PBC	SNs	PA	EI
EnvA	.733				
PBC	.012	.788			
SNs	.154	.151	.720		
PA	.100	.488	.314	.841	
EI	.044	.561	.251	.816	.829

The elements of the diagonal (bold) are the square root of the variance shared between the constructs and their measures (AVE). The values below the diagonal are the correlations between the constructs.

Table 4
Effects on endogenous constructs.

Construct	Direct Effect ¹	t-Value ²	p Value ²	Percentile confidence interval (PCI)	Explained Variance (R ²)	f ²
EI (R² = 0.701)						
H1a: PA	.714	42.893	.000	[.680, 0.746]	.583	1.194
H1b: PBC	.214	11.458	.000	[.178, 0.251]	.120	.116
H1c: SNs	−0.006	.356	.722	[−0.039, 0.026]	−0.002	.000
PA (R² = 0.301)						
H2a: EnvA	.058	2.107	.035	[.004, 0.111]	.006	.005
PBC	.452	20.441	.000	[.409, 0.495]	.221	.286
SNs	.237	10.220	.000	[.192, 0.283]	.074	.077
SNs (R² = 0.024)						
EnvA	.154	5.656	.000	[.104, 0.209]	.024	.024
PBC (R² = 0.000)						
EnvA	.012	.374	.709	[−0.052, 0.077]	.000	.000

¹ Paths from hypothesized effects assessed by applying a two-tailed test at 5% of significance [2.5%, 97.5%].

² Bootstrapping based on n = 10,000 bootstrap samples.

& Urbano, 2005), which has 14 items that reflect the idea of the entrepreneur in the environment of the student

The environmental awareness (EnvA) has been assessed through an abridged version of Milfont and Duckitt's environmental attitude questionnaire (Milfont & Duckitt, 2010). In the light of Cordano's recommendations (Cordano, Welcomer, & Scherer, 2003), we have reduced the original scale to 6 items that cover all dimensions of the environmental awareness structure

4. Results

Due to the fact that we apply structural equations it is necessary to assess the measurement model before the structural model itself. It should be noted that the measurement model has five reflective constructs. Firstly, the individual reliability of the items was assessed analysing their correlative loads and weights, which must be above 0.708 (Hair, Hult, Ringle, & Sarstedt, 2017). This criterion is fulfilled

Table 5
Summary of the mediating effect test.

Hypothesis	Total effects ¹ (p Value) ²	Direct effects ¹ (p Value) ²	Indirect effects Path ¹ (p Value) ²	Percentile confidence interval ²	VAf (%)
H1d: PBC→PA→EI	.537 (0.000)	.214 (0.000)	.323 (0.000)	[.290, 0.355]	60.15
H1e: SNs→PA→EI	.163 (0.000)	−0.006 (0.722)	.169 (0.000)	[.137, 0.204]	103.68
H2b: EnvA→PBC→PA	.100 (0.002)	.058 (0.035)	.006 (0.709)	[−0.023, 0.035]	6.00
H2c: EnvA→SNs→PA			.036 (0.000)	[.023, 0.053]	36.00
EnvA→PA→EI	.073 (0.008)	np ³	.041 (0.036)	[.002, 0.079]	56.16
EnvA→PBC→EI			.003 (0.707)	[−0.011, 0.016]	.410
EnvA→SNs→EI			−0.001 (0.737)	[−0.007, 0.004]	1.36
EnvA→PBC→PA→EI			.004 (0.712)	[−0.016, 0.025]	5.48
H2d: EnvA→SNs→PA→EI			.026 (0.000)	[.016, 0.038]	35.62

¹ Paths from hypothesized effects assessed by applying a two-tailed test at 5% of significance [2.5%, 97.5%].

² Bootstrapping based on n = 10,000 bootstrap samples.

³ Not proposed.

by every item of the PA, PBC, EnvA and EI constructs. In the case of the SNs, some items had to be removed from the original scale, which finally had 9 items, that are listed in the appendix without an asterisk. Then, the reliability and the validity of the indicators of the model's reflective constructs were analysed. Table 2 shows the indicators that evaluate the internal consistency and the convergent validity of such constructs. In all cases, these values show that the measurement model is suitable for this type of constructs (Cronbach's Alpha, Rho_A y CR > 0.7 y AVE > 0.5)

Regarding discriminant validity, Table 3 shows the Fornell-Larcker criterion, which stipulates that the square root of each construct's AVE is above the highest correlation of such construct with any of the

other constructs of the model. On the basis of these data we can state that all constructs are different amongst them, proving their discriminant validity

After verifying that the measurement models of the reflective constructs show satisfactory quality values regarding reliability and validity, we analyse the structural model proposed. Following the precepts of Benitez, Henseler, Castillo, & Schuberth, 2020, we first analyse the goodness of fit using the square root average of the standardised residuals (SRMR), which value is lower than 0.08 (SRMR = 0.056), indicating a good fit. Secondly, we exclude the presence of collinearity in the structural model, given that all VIF are lower than 3 (Hair, Risher, Sarstedt, & Ringle, 2019) (the highest of

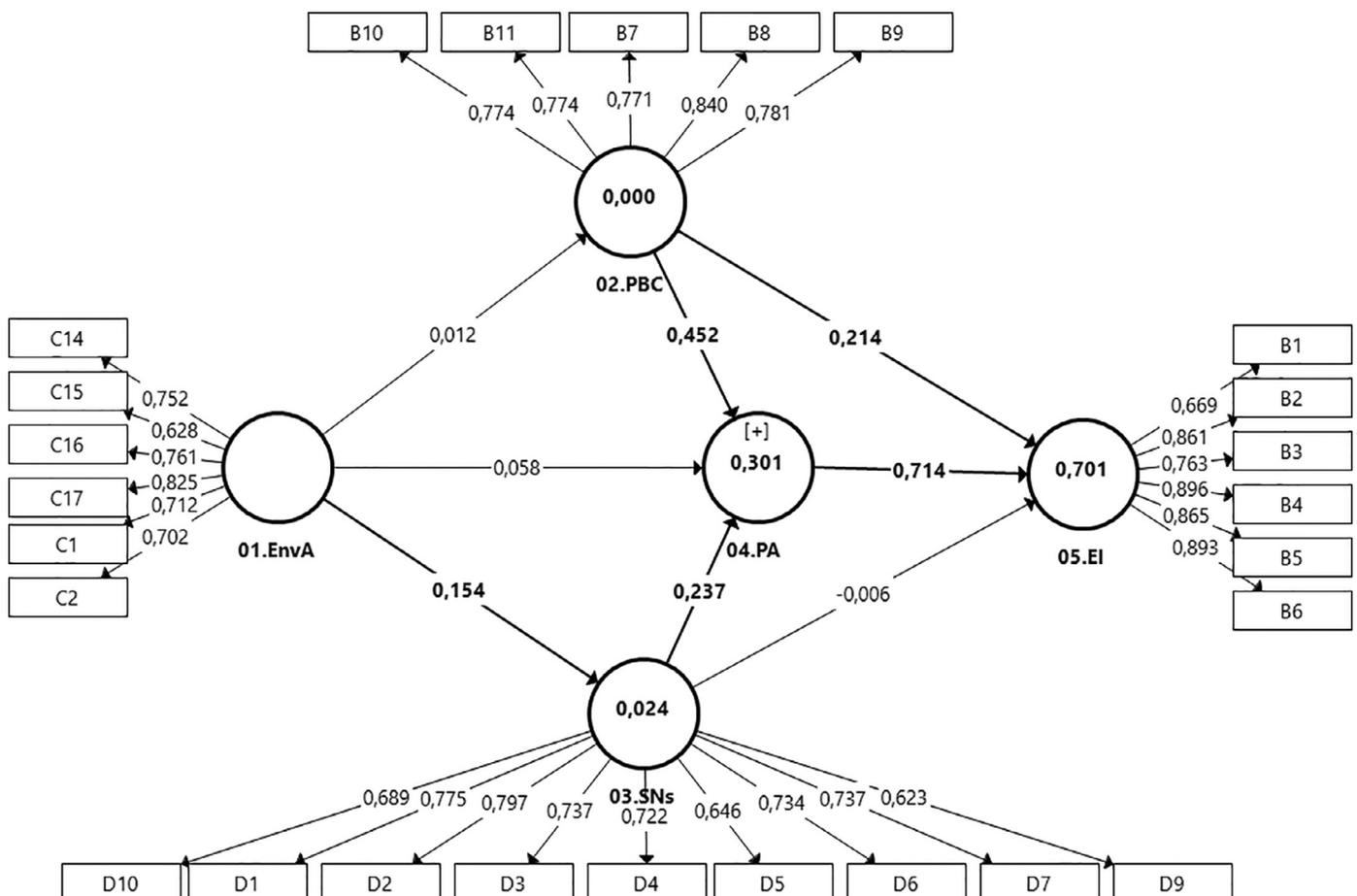


Fig. 2. Structural model results.

them is 1.424 between PA and EI). Thirdly, we analyse the significance of the path coefficients (see Table 4) through the bootstrapping process (10,000 subsamples), on the basis of the confidence interval percentiles (Aguirre-Urreta & Rönkkö, 2018)

The results show that both the PA (H1a: $\beta = 0.714$; $p < 0.001$) and the PBC (H1b: $\beta = 0.214$; $p < 0.001$) has a positive and significant influence on the university students' EI, while the SNs (H1c: $\beta = -0.006$; $p > 0.1$) have no significant influence on the EI. Therefore, the TPB of Ajzen is partially fulfilled (Ajzen, 1991). Regarding the influence of the university students' EnvA, this significantly has influence on the PA (H2a: $\beta = 0.058$; $p < 0.5$) and the SNs ($\beta = 0.154$; $p < 0.001$), but it has no significant influence on the PBC ($\beta = 0.012$; $p > 0.1$)

Finally, the model explains the 0.701 of the main endogenous construct (EI) variance. This entails that it has a high predictive power. In addition, as it is shown in Table 4, the individual contribution of each variable, the one which contributes the most is the PA (58.3%), followed by far by the PBC (12.0%). These results are confirmed when the size of the effects is analysed (f^2), highlighting the relevance of the PA in the explanation of the EI ($f^2 = 1.194$) with values above the 0.35 proposed by Cohen (1988)

On the other hand, in order to test the mediation hypotheses, we have analysed the indirect effects (Nitzl, Roldan, & Cepeda, 2016). As shown in Table 5, the total effect of the PBC on the EI is greater than the direct effect and it is also significant ($\beta = 0.537$; $p < 0.001$ and $\beta = 0.210$; $p < 0.001$, respectively). This suggests the existence of a partial and complementary mediation of PA. However, is the case of the PA mediation in the relationship between the SNs and the EI, there is a total mediation, as the direct effect ($\beta = -0.006$; $p > 0.1$) is not significant, with significant total and indirect effects ($\beta = 0.163$; $p < 0.001$ and $\beta = 0.169$; $p < 0.001$, respectively)

Regarding environmental awareness, one of the main contributions and additions of the model, it is observed that approximately 39% of the total effect exerted on the PA is done through the mediation of the other variables. In particular, the SNs (36.00%) and the PBC (6.00%) are the mediators in this relationship. Moreover, environmental awareness has an indirect and significant influence on the entrepreneurial intention, especially through the PA ($\beta = 0.041$; $p < 0.05$), that explains the 56.16% variance, and through a double mediation of the SNs and the PA (H2d: $\beta = 0.026$; $p < 0.001$). This indirect effect explains the 35.62% of the effect's variance between the EnvA and the EI.

In summary, all the hypotheses set out, except for H1c (SNs→EI) and H2b (EnvA→PBC→PA), were supported. Fig. 2 shows the coefficients of the structural model's paths as a whole.

5. Discussion

This paper seeks evidence of which variables, directly or indirectly, have influence on the entrepreneurial intention of university students in order to adequately plan activities to reinforce such intention for Spanish universities. The starting point of our model has been fixed in the TPB of Ajzen (1991), proving that both the attitude towards the entrepreneurial behaviour (PA) and the perceived behavioural control (PBC) exert a significant influence on the entrepreneurial intention (EI) of university students. This is not the case of the third construct of the TPB, namely the social norms (SNs). Actually, following previous analyses, this construct is the weakest predictor in terms of the individual entrepreneurial intention (Almobaarek & Manolova, 2012; Autio, Keeley, Klofsten, Parker, & Hay, 2001; Krueger et al., 2000; Liñán & Chen, 2009a) and, perhaps, it especially affects young people, who are generally more transgressive with such social norms

We have then focused on the attitude towards entrepreneurship and have verified that this construct partially mediates the relationship between the PBC and the EI of the students, ratifying previous

arguments about the fact that people feel they have more control to manage a company, have a more proactive attitude towards this activity and reinforce their entrepreneurial intention (Prabhu et al., 2012; Sidratulmunthah, Hussain & Imran Malik, 2018; Wang et al., 2016; Zhao, Seibert, & Hills, 2005). It is interesting to see that the hypothesis H1 is fulfilled, i.e. the mediating effect of the PA between the SNs and the EI. As there were no direct effect between the SNs and the EI, this mediation is complete, ratifying that the effect of the social norms on the entrepreneurial intention is relevant when it is exerted in an indirect way through attitude, especially amongst young people. In this particular case, this states the temporality amongst the variables of the TPB, namely when environment shapes the attitude of student, there is an indirect effect in the entrepreneurial intention

Environmental awareness is an issue that has been addressed in the major global agendas for years. 3 of the 17 sustainable development goals for 2030 signed by the United Nations are related to environment. The quest for these opportunities, respecting nature's conservation, life support and the community in order to create future products, processes and services, has led to a sustainable entrepreneur characterised by a high degree of environmental awareness (EnvA). This argument has led us to introducing this variable in the model, corroborating that the university student's EnvA exerts influence in their PA, confirming that, as agents of change, a high environmental awareness encourages people to proactive attitude in order to achieve both economic and environmental end results (Phillips, Lee, Ghobadian, O'Regan, & James, 2015)

We were expecting the PBC to mediate the relationship between the university student's EnvA and the PA. However, this relationship has not had a significant result. It seems that environmental awareness encourages the entrepreneurial attitude, but it establishes no relationship with the need for training and success. It has been corroborated that the SNs which are most proactive towards entrepreneurship mediate the relationship between the student's EnvA and the PA. It has been detected in theoretical analyses that people aware of environment seek social partnerships and, most of them, cooperate with organizations and NGOs (Elkington & Fennell, 2000; Wymer & Samu, 2003). The results show that people aware of environment often tend to interact with groups of broad-minded people that seek solutions and are more proactive to develop initiatives that seek opportunities and economic and environmental solutions that can reinforce their attitude

6. Conclusions

The confirmation of these hypotheses allows us to draw conclusions of interest with regard to what is being promoted in many Spanish universities and, in particular, in the University of Oviedo through its undergraduate degrees and a master's degrees. Moreover, in recent years, this field is rapidly evolving at university level. Universities have enjoyed a growth of their entrepreneurship centres, chairs of entrepreneurship, entrepreneurship programmes and journals, related complementary activities, such as entrepreneurial awareness programmes, seminars, clubs and companies of entrepreneurial students, the search for sponsors and foundations, business incubators at universities, groups of entrepreneurial alumni and business forums that perform an encouraging entrepreneurial work (Agudo-Peregrina et al., 2013)

We have found the attitude towards the entrepreneurial behaviour to be a core matter of our model, as it has a direct influence on the entrepreneurial intention and mediates the relationship of other variables about such entrepreneurial intention. Although attitude is intrinsic to each individual, it can be externally encouraged. For that end, organising talks and seminars with entrepreneurs, visits to companies, prize competitions and calls regarding entrepreneurship (e.g. prizes awarded on completion of studies), organising entrepreneurial

competitions within the university and with other universities, etc. These activities can encourage the entrepreneurial attitude if they extend to all branches of knowledge, as in our empirical analysis, and not just to Social and Legal Sciences

Secondly, it has been stated that students should have entrepreneurial training, as it has a direct influence on the entrepreneurial intention and it indirectly promotes the PBC and the attitude towards entrepreneurship. In the case of business administration students, this training is intrinsic to the degree. At the University of Oviedo, Engineering students have a “Business” course during the first year; they study specific concepts about entrepreneurship in brief. In some Engineering degrees, students have another subject called “Organisation of Industrial Companies”, which is focused on the production area. Nevertheless, in the Sciences, Health Sciences and Humanities areas of knowledge there are hardly any courses regarding business

Since it is difficult to change curricula, chairs of entrepreneurship of universities and entrepreneurship centres of the different autonomous communities of Spain should cooperate and enter into agreements with universities in order to offer courses recognised as free-elective credits and different types of business management training initiatives (e.g. specific knowledge applied to a business plan) in which students are granted diplomas and rewards to draw them to these areas of knowledge

A cross-disciplinary and specific training can provide an intense experience in the development of new undertakings (Robinson & Sexton, 1994) and can be more effective to reach future entrepreneurs, regardless of their speciality. For instance, it has been stated the creative profile of Humanities students and the difficulty creative students have in being admitted to a business school to learn entrepreneurial skills (Richards, 2005). Likewise, a school of the arts would be reluctant to admit business school professionals. Therefore, an approach to these areas of knowledge outside business sector through cross-disciplinary courses would be a suitable solution to this confrontation. Our results prove that an adequate supply of these courses can contribute to achieve a greater entrepreneurial intention amongst students who already have a proactive attitude

The PBC, in addition to training, shows a direct effect on entrepreneurial intention and mediates in other relationships. The PBC not only refers to training, but also to the level of control perceived by a student to manage a company. In order to acquire this skill, along with inner training, it would be advisable to introduce courses dealing with emerging topics about managing skills, such as coaching, emotional intelligence and neuro-linguistic programming (NLP), etc.

In this paper, we have stated that environmental awareness exerts influence on the students’ attitude and social norms which in turn has an indirect influence on the entrepreneurial intention. Therefore, the introduction of cross-disciplinary issues, as environmental management, in seminars and courses would be helpful for all kinds of students, who may these issues may arouse curiosity and come up with ideas to establish a business

In order for these conclusions to achieve greater consistency in the scientific area, the main weakness of this study, namely the generalisation of data, must be overcome. Our model has been corroborated with a great sample of students from the same university. It is necessary to replicate the information in other Spanish universities in order to generalise the findings for Spain, in case the hypotheses are corroborated

Likewise, two relevant issues should be added to the research in the near future. On the one hand, the figure of the environmental entrepreneur has been analysed on the basis of their level of awareness. Nevertheless, the current literature is working with social entrepreneurship, an issue that goes beyond environment, as it includes environmental and social topics. We should include social variables in the model in order to go beyond what is strictly environmental. Furthermore, the genre variable should be studied in future researches

Annex: Items of the research

Construct	Items
EnvA	I get irritated when I think about the damage caused by pollution to our lives. I feel frustrated and get annoyed when I think about the pollution caused by companies. I am interested in reading articles related to organic products. I always read the labels on organic products and evaluate their ingredients. I am willing to pay an extra 20% for organic products. I would donate one day's salary to a foundation that would improve the environment.
PBC	It would be easy to me to create a company and keep it in business. I can control the creation process of a new company. I know enough practical details to start a company. I know how to develop an entrepreneurial project. If I tried to start a business, I would have a high chance of success.
SNs	Entrepreneurs are dynamic individuals. Entrepreneurs have good organisational skills. Entrepreneurs have good financial and managerial skills. Entrepreneurs are very innovative. Entrepreneurs are personally very well prepared. Entrepreneurs are well prepared and can assume risks. Entrepreneurs have a good entrepreneurial vision. Entrepreneurs invest.* Entrepreneurs create jobs. Entrepreneurs boost the economic development of the country. Entrepreneurs earn much money.* Entrepreneurs engage in a systematic dialogue with their workers.* Entrepreneurs are honest and ethical.* Entrepreneurs have a sense of social justice.*
PA	In my opinion, being an entrepreneur entails more advantages than disadvantages. The idea of becoming an entrepreneur appeals to me. I would start a company if I had the opportunity and the necessary resources. I would be thrilled to become an entrepreneur. amongst a number of options, i would choose to be an entrepreneur.
EI	I am prepared to do anything in order to become an entrepreneur. My career goal is to become an entrepreneur. I will make every effort to create and run my own company in the future. I am determined to create a company in the future. I have been seriously considering creating a company in the future. I firmly intend to start a company in the future.

*Items eventually removed from the original construct.

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